CLAIM AMENDMENTS

1. (Previously Presented) A traffic management processor for scheduling packets for transmission across a network, comprising:

a departure time calculator for generating a departure time for each packet;

a departure time prioritizer for comparing the departure times with each other to determine which of the departure times is the earliest, wherein the departure time prioritizer comprises:

a table having a plurality of rows, each for storing the departure time for a corresponding packet; and

compare logic having a plurality of inputs coupled to corresponding rows of the table;

a token generator for generating a token for each packet, wherein the token generator comprises a priority encoder coupled to the compare logic and configured to generate each token in response to a next free address in the table, and wherein the departure time for each packet is stored in the row of the table addressed by the packet's token; and

a packet memory for storing a payload for each packet at an address indicated by the packet's token.

2. (Original) The traffic management processor of Claim 1, wherein the departure time calculator and the departure time prioritizer comprise a packet scheduler.

3. (Canceled)

4. (Original) The traffic management processor of Claim 1, wherein the departure time prioritizer and the token generator comprise a programmable priority encoder.

5. (Canceled)

6. (Previously Presented) The traffic management processor of Claim 1, wherein more than one row of the table stores the same departure time.

7. (Canceled)

8. (Canceled)

9. (Previously presented) The traffic management processor of Claim 1, wherein the departure times can be stored in any order in the table.

10. (Previously Presented) The traffic management processor of Claim 1, wherein each row of the table includes a valid bit indicating whether a valid departure time is stored in the row.

11. (Original) The traffic management processor of Claim 10, wherein the tokens are generated in response to the valid bits.

12-20. (Canceled)

21. (Currently Amended) A method for scheduling a plurality of packets for transmission across a network, comprising:

generating a token for each packet using a token generator;

calculating a departure time for each packet using a departure time calculator;

storing each packet's departure time at a location in a table addressed by the packet's token, wherein the token comprises a next free address in the table and is generated by a priority encoder coupled to the table;

storing a payload for each packet at a location in a packet memory addressed by the packet's token;

comparing the departure times with each other to determine which departure time is the earliest; and

transmitting the packet corresponding to the earliest departure time.

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Previously Presented) The method of Claim 21, wherein transmitting the packet comprises:

asserting a signal line for the row of the table that contains the earliest departure time;

generating an index of the row having the asserted signal line; and

reading a packet from a location in a packet memory addressed by the index.

26. (Canceled)